

CLAIMS

1. A system for providing a video signal comprising scaled frames, said system comprising:

a decoder for decoding a plurality of frames, wherein the plurality of frames comprises a first one or more frames associated with old display parameters, and a second one or more frames associated with new display parameters;

a display engine for scaling the first one or more frames associated with the old display parameters;

wherein the decoder transmits a signal to the display engine after receiving the second one or more frames;

wherein the display engine scales at least one of the first one or more frames with the old display parameters after receiving the signal from the decoder; and

wherein the display engine scales the second one or more frames with the new display parameters.

2. The system of claim 1, wherein the signal from the decoder to the display engine provides the new display parameters to the display engine.

3. The system of claim 1, wherein the display engine further comprises:

a first buffer for storing the old parameters;
and

a second buffer for storing the new parameters.

4. The system of claim 3, further comprising:

a controller for transmitting a signal to the display engine; and

wherein the display engine scales the second one or more frames with the new display parameters, after receiving the signal from the controller.

5. The system of claim 4, wherein the second one or more frames are displayable immediately after a vertical synchronization signal, and wherein the controller sends the signal to the display engine at a predetermined period of time before the vertical synchronization signal.

6. The system of claim 5, wherein the controller sets a timer with the predetermined period of time responsive to another vertical synchronization signal; and

wherein the controller compares timing data associated with the new display parameters to a time reference, after the expiration of the predetermined period of time; and

wherein the controller transmits the signal to the display engine if the timing data associated with the new display parameters is within a predetermined range from the timing reference.

7. The system of claim 6, wherein the timing data further comprises a presentation time stamp.

8. The system of claim 1, wherein the new display parameters are stored in a sequence header.

9. A circuit for providing scaled frames for display, said circuit comprising:

a controller for executing a plurality of instructions; and

a memory for storing the plurality of instructions, wherein the plurality of instructions cause the controller to:

set a timer responsive to receiving a vertical synchronization pulse;

compare timing information associated with a new set of display parameters with a reference clock, after expiration of the timer; and

transmit a signal to a display engine, said signal causing the display parameters to scale frames according to the new display parameters if the timing information associated with the new set of display parameters is within a predetermined range of the reference clock.

10. The circuit of claim 9, wherein the predetermined range comprises a frame display period.

11. The circuit of claim 9, wherein the instructions for causing the controller to set a timer after receiving the vertical synchronization pulse further comprises instructions for causing the controller to set the timer

after to a predetermined period of time, after to receiving the vertical synchronization pulse.

12. The circuit of claim 9, wherein the instructions causing the controller to set a time responsive to receiving a vertical synchronization pulse form a portion of a first interrupt handler.

13. The circuit of claim 9, wherein the instructions for causing the controller to compare the timing information associated with the new set of parameters to the timing reference forms a portion of a second interrupt handler.

14. A video display engine for preparing frames for display, said video display engine further comprising:

a scalar for scaling the frames, wherein the scalar further comprises:

a first buffer for storing a first set of display parameters; and

a second buffer for storing a second set of display parameters.

15. The video display engine of claim 14, wherein the frames comprise a first one or more frames and a second one or more frames, and wherein the scalar scales the first set of frames in accordance with the display parameters stored

in the first buffer and scales the second set of one or more frames in accordance with the display parameters stored in the second buffer.

16. The video display engine of claim 14, wherein the scalar scales some of the frames in accordance with the display parameters stored in the first buffer and receiving a toggling signal, scales the rest of the frames according to the display parameters stored in the second buffer.

17. The video display engine of claim 14, wherein the first buffer stores the first set of display parameters before the second buffer stores the second set of display parameters, and wherein the scalar scales the frames in accordance with the display parameters stored in the first buffer after the second buffer stores the second set of display parameters.

18. A method for displaying frames, said method comprising:

receiving a frame associated with a new set of display parameters;

storing the new set of display parameters, after receiving the frames; and

scaling one or more frames with an old set of display parameters after storing the new set of parameters.

19. The method of claim 18, further comprising:
timing a predetermined period of time from a vertical synchronization pulse, after receiving the frame associated with the new set of display parameters.

20. The method of claim 19, further comprising:
comparing a reference time with timing information associated with the new set of display parameters, after the expiration of the predetermined period of time; and
displaying the frame with the new set of display parameters wherein the reference time and the timing information are within a predetermined range.

21. The method of claim 20, wherein the timing information associated with the new set of display parameters further comprises a presentation time stamp.